as probes. Nucleic acid molecules which have complete sequences are now defined in claims 47 and 48. Probes which comprise fragments of SEQ ID NOS 3, 4, 5 and 6 (with greater than 10 to 40 bases in length, preferably 15-25 bases) are now claimed in new claims 55-58. The claim pairs reciting "comprising" and "consisting of" language, respectively, provide an adequate differential in claim scope.

The phrases,

> "capable of base-pairing according to the standard Watson-Crick complementarity rules,"

and

> or a nucleic acid substantially complementary to said isolated molecule which is capable of hybridizing to the nucleic acid molecule under following stringent conditions:
> hybridization at 40°-65 °C for 14-16 hours in a hybridization solution at ph 7.8, containing 0.9 M NaCl, 0.12 M Tris-HCl, 6nM EDTA, 0.1M sodium phosphate buffer, 0.1% SDS and 0.1% polyvinylpyrrolidone,
> followed by three 15-minute washes at 40°-65 °C to remove unbound probes in a solution at pH 7, containing 0.075 M NaCl, 0.0075 M Na Citrate and 0.1% SDS.

have been inserted in claims 47 and 48 to clarify what is encompassed by "complementary" and "substantially complementary" sequences and the "stringent" conditions which define them. Support for this language is found on page 14, lines 6-14, 20-23 and page 17, lines 16-25.

Support for the probes defined in claims 55-58 is found on page 11, lines 9-12, page 13, lines 2-4, page 16, lines 27-28 and page 17, lines 9-15, of the specification.

Claim 52 has been amended so as to define only the sequence of SEQ ID NO. 6. New claim 53 defines only the sequences comprising SEQ ID NOS. 3, 4, 5 and 6, RNA equivalents thereof and complementary sequences capable of base-pairing according to the standard Watson-Crick complementarity rules. New Claim 54 defines only the sequences consisting of SEQ ID NOS. 3, 4, 5 and 6 and RNA equivalents thereof. New claims 53 and 54 define a subclass of the molecules of claims 47 and 48 in that they do not include nucleic acids which are substantially complementary to the molecules of SEQ ID Nos. 3, 4, 5 or 6.

Pending Claims

The claims pending prior to the above amendments were 37-39 and 45-52. Claims 53-56 were mentioned in error in the last response. The claims now pending are claims 47, 48 and 52-58.

Objections to the Specification and Claims

The claims no longer refer to sequences in Table 2 of the specification without SEQ ID NOs. Therefore, there is no need to identify every entry in Table 2 by a SEQ ID NO.

Rejection Under 35 USC § 101.

The rejection does not apply to the pending claims. Claim 48 does not employ the word "essentially" and the full DNA sequences claimed are defined as "isolated." The probes of claims 55-58 are fragments of sequences which have not been shown to exist in nature. Therefore, it is not necessary to claim them as isolated molecules.

Enablement

The term "complementary,"appears in claims 47, 48, 53, 55 and 56. Sequences that are "complementary" are further defined as those that are "capable of base-pairing according to the standard Watson-Crick complementarity rules." This term is clearly not ambiguous.

The phrase "substantially complementary" appears in claims 47 and 48. This term, as defined in claims 47 and 48 is not ambiguous.

Written Description

The complementary sequences and substantially complementary sequences now claimed are described in the specification in that the definitions for these terms are clear in meaning and supported by the specification. Since SEQ. ID NOS 3, 4, 5 and 6 are literally described; their complementary sequences and substantially complementary sequences are described as well. It is not necessary for these sequences to be literally recited in the specification. The specification need not describe what would clearly be understood and recognized by one of ordinary skill in

the art.

One skilled in the art would recognize what probes (fragments of above 10 to 40 bases) can be obtained from SEQ ID NOS. 3, 4, 5 and 6, as well as RNA equivalents and complementary sequences thereof without literally describing such fragments.
It is not necessary to literally recite every fragment of SEQ. ID NOs. 3, 4, 5 or 6 of over ten to 40 bases.

The facts in the case of *University of California v Eli Lilly and Co*, 43 USPQ 2d 1398, are distinct from those herein in that in the Lilly case, no chemical structure of the cDNA claimed was provided in the specification. In contrast, the sequences from which the probes are obtained are described in the present application.

Indefiniteness

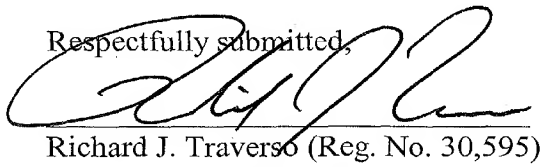
The language objected to does not appear in any of the pending claims

Prior Art

No prior art has been cited against SEQ ID Nos. 3, 4, 5, and 6. Therefore, the subject matter encompassed by the pending claims directed to these sequences, RNA equivalents thereof, complementary sequences thereof, substantially complementary sequences thereof and fragments thereof with above 10 to 40 bases is novel and unobvious.

In view of the above remarks, withdrawal of the rejections and the allowance of claims 47, 48 and 52-58 are earnestly solicited. The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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Attorney Docket No.: CABTECH 2

Date: February 21, 2003

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

47. An isolated nucleic acid molecule comprising ~~a nucleotide sequence as set forth in~~ SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, or SEQ ID NO: 6,

or an RNA equivalent thereof,

or a nucleic acid complementary to said isolated molecule, capable of base-pairing according to the standard Watson-Crick complementarity rules,

or a nucleic acid substantially complementary to said isolated molecule which is capable of hybridizing to the nucleic acid molecule under the following stringent conditions:

hybridization at 40°-65 °C for 14-16 hours in a hybridization solution at ph 7.8, containing 0.9 M NaCl, 0.12 M Tris-HCl, 6nM EDTA, 0.1M sodium phosphate buffer, 0.1% SDS and 0.1% polyvinylpyrrolidone,

followed by three 15-minute washes at 40°-65 °C to remove unbound probes in a solution at pH 7, containing 0.075 M NaCl, 0.0075 M Na Citrate and 0.1% SDS.

48. An isolated nucleic acid molecule consisting ~~essentially~~ of ~~a nucleotide sequence as set forth in~~ SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, or SEQ ID NO: 6,

or an RNA equivalent thereof,

or a nucleic acid complementary to said isolated molecule, capable of base-pairing according to the standard Watson-Crick complementarity rules,

or a nucleic acid substantially complementary to said isolated molecule which is capable of hybridizing to the nucleic acid molecule under the following stringent conditions:

hybridization at 40°-65 °C for 14-16 hours in a hybridization solution at ph 7.8, containing 0.9 M NaCl, 0.12 M Tris-HCl, 6nM EDTA, 0.1M sodium phosphate buffer, 0.1% SDS and 0.1% polyvinylpyrrolidone,

followed by three 15-minute washes at 40°-65 °C to remove unbound probes in a solution

at pH 7, containing 0.075 M NaCl, 0.0075 M Na Citrate and 0.1% SDS.

52. (AMENDED) ~~An~~ The isolated nucleic acid molecule consisting of the ~~comprising a~~ nucleotide sequence of SEQ ID NO: 6~~, or a nucleic acid molecule complementary to said isolated molecule or an RNA equivalent thereof~~.